

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

---

November 24, 2003

TO: Internal File

THRU: Dana Dean, Environmental Scientist III and Team Lead

FROM: Priscilla Burton, Environmental Scientist III

RE: 2003 Midterm Review, Plateau Mining Corporation, Willow Creek Mine,  
C007/0038, Task #1751

### **SUMMARY:**

This technical memo reviews compliance with the U.S. Fish and Wildlife 1987 Recovery Implementation Program for endangered fish species in the upper Colorado River basin as part of the midterm review of the Willow Creek Mine, in accordance with R645-303-211.

---

TECHNICAL MEMO

---

**TECHNICAL ANALYSIS:**

## **OPERATION PLAN**

### **FISH AND WILDLIFE INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

**Analysis:**

#### **Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

The Colorado River endangered fish species are Colorado squawfish (a.k.a. Colorado pikeminnow), humpback chub, bonytail chub, and razorback sucker. To protect these species, consumption of water within the Colorado river drainage system is tracked by the U.S. Fish and Wildlife Service as part of their 1987 Recovery Implementation Program. Water users may be required to mitigate if their overall water consumption is greater than 100 acre-feet per year.

The initial Willow Creek Mine permit was issued in April 1995. Section 4.3.2.2 “Potential Effects on Aquatic and Riparian Resources (includes sensitive species)” page 4.3-7 estimates the river water usage during active mining at 730 acre-feet annually. Based on this figure, a “depletion fee” was paid to the U.S. Fish and Wildlife Service as required by the USFWS 1987 Recovery Implementation Program (memorandum to Mr. Gregory K. Reed, reclamation and Enforcement, OSM, from Utah Field Supervisor, USFWS, SLC, dated October 22, 1996). This memorandum was reviewed during a field visit 11/17/03.

During a site visit on November 17, 2003, the effects of temporary cessation and recent reclamation on water usage were discussed with the Permittee.

The Willow Creek Mine has been in temporary cessation since the summer of 2000 after underground mine fires raged in the D1, D2 and D3 panels of the D seam. Current measurements of river water usage are about 2.0 acre/feet annually. Most of the river water used between 01/03/03 to 11/18/03 (647,760 gallons) was applied to the ground surface for dust control in the Castle Gate and Crandall Canyon areas (personal communication with Mr. Pappas on 11/17/03). Note: 1 ac/ft = 326,000 gallons

The MRP indicates that mine workings are confined to the D-seam and are not likely to create an impact to the hydrologic balance, as the D seam does not underlie any surface or

ground water monitoring locations (Section 4.7.2.3). However, during the development of the D Northeast Mains, a large artesian inflow originated from abandoned surface well MC-090. During the inflow, the Willow Creek mine discharged approximately 700 gpm to the Price River and enlarged Pond #1 to hold some of the outflow. A total of 2 billion gallons was pumped out of the mine.

The underground flood prompted research into the possible alternatives for disposal of in-mine water (Section 4.7.2.5). The results of this research are summarized in a paper entitled, "Potential for Water Storage in Abandoned Mine Workings in the Castlegate Area, Carbon Co. Utah," dated June 15, 1999. This 1999 report was provided as part of the 2002 Annual Report filed with the Division. The Executive Summary of this report indicates that between 0.720 and 2.490 billion gallons of water could be stored underground west of State Hwy 6. However, all work on this topic has been suspended since mining cessation. **Note: This report provides maps of all the abandoned underground workings in the Castle gate area. The Permittee has this information available electronically.**

In-mine groundwater accumulation is discussed in Section 4.7.2.2. Exhibit 10 "Hydrologic Conditions at the Willow Creek Mine at Mine Closure," presents the projections for postmining hydrogeologic conditions. Exhibit 10 describes an inflow to the D Seam of 100 gpm that will reduce to 25 gpm overtime as the abandoned workings fill up.

The drainage and sediment control system for the mine is described in Section 4.5.2.3. The preparation plant and the 1,765,695 gallon thickener pond are described in Section 4.7.2.2.

Surface storage of water includes the 350,000 gallon water storage tank and five remaining sediment ponds: Ponds 1, 2, 11, 12A&2B, and 13 (ponds 14 and 15 were removed with the Crandall Canyon reclamation this Fall 2003). These ponds were observed during the site visit November 17, 2003. The water level in all the ponds was well below the discharge, but all the ponds contained some water. Exhibit 13 describes the pond designs. The MRP states that these designs have the "minimal acceptable detention time, such that delays to receiving streams are limited" (Section 4.7.2.1).

The water monitoring network consists of 14 springs, 7 ground water wells and 10 stream locations. The monitoring locations are shown on the Regional Hydrology and Monitoring Station location Map 15 and listed in Table 4.7-1. Currently, there are six surface sites and five ponds being monitored.

Also on November 17, 2003, I observed the riparian vegetation, buffer zone and sediment control measures in place along Willow Creek (Exhibit 14 and Section 4.7.1.4). The water was running clear and the vegetation was well established.

---

**TECHNICAL MEMO**

---

Four years after payment of the “depletion fee,” the Permittee has reduced water consumption to well below that entitled by water rights held. The Permittee is in compliance with R645-301-322 and R645-301-333.

**Findings:**

Information provided in the application is considered adequate to meet the minimum Fish and Wildlife Information section of the Operation Plan regulations.

**RECOMMENDATIONS:**

The Willow Creek Mine is in compliance with the requirements of the U.S. Fish and Wildlife 1987 Recovery Implementation Program for endangered fish species in the upper Colorado River basin. No action is necessary.